

Innovative Tools for Determining Training Requirements and Constraints

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Exploiting Operations Research

- Ops Research SBIRs

Optimized Manpower and Resource

Utilization Concept

- CNET's Translation

Automated, Optimized, Class Scheduling
Tool

- Tool-Set Evolution

Training-Oriented User Resources Scheduler
(TOURS)

TOURS - An Evolving Standard for Optimizing Training/Manpower

- TOURS Class Scheduling System (CSS)
 - Component 1: Annual Class Scheduling (ACS) – 1997
 - All CNET “A” Schools
 - All CNET “C” Schools
 - Component 2: Daily Training Scheduling (DTS) – 2001
 - Beta test at 12+ locations

TOURS - An Evolving Standard for Optimizing Training/Manpower (cont.)

- TOURS Flight Training System (FTS)* - 2000
 - Fleet Replacement Squadrons, VFA-122, VFA-106 . . .
and deploying to more.
- TOURS Recruit Training Scheduler (RTS) - 2001
 - Recruit Training Center - Great Lakes, IL

*Spin-Off Developed by COMNAVAIRPAC and the German Air Force

Innovative Tools for Determining Requirements and Identifying Constraints

- “What-if” Analysis
 - Determine Trade-offs Between # Classes to Meet Requirements and Instructor Availability
 - Identification of Capacity Constraints
- Feasibility Review Process
 - Manage Long Range Capability and Planning
 - Feasibility Support Module (FSM)
 - In Final Stage of Development

ROI Targets

- Reduce In-house Feasibility Process Duration
- Reduce Constrained Course Number by Applying an Optimized Approach
- Increase Process Accuracy by Substituting Approved MCS Data for Erroneous NITRAS Course Data
- Reduce Delivery Time of Feasibility Reviews to the Enlisted Community Managers Through Integration With NTQMS Training Requirements Module

DEMO

Feasibility Support Module

TOURS CSS: IMRD (Phase I) Features

- Provides Tools for Maintaining and Validating Master Course Schedules (MCS)
- Automates Instructor Computation Based Upon MCS Data
- CSS uses actual manpower scenarios vs. planned manpower requirements (IMRD*), to reduce scheduling constraints and optimize instructor utilization
 - Previous-FY encroachment
 - Trainee Surge
 - Future requirements

*Instructor Manpower Requirements Determination

TOURS: IMRD (Phase II)

Planned Features

- Distinction of instructor staffing
 - Military
 - Non-Military
- Identification of minimum essential skill requirement at the curriculum event level
- Requirements determination considering peak requirements, annual training weeks, and cross-utilization of instructors
- Identification on the MCS of Technical vs. Non-Technical – e.g., Navy Military Training, General Military Training, Physical Training – topics

TOURS: IMRD (Phase II) Planned Features (Cont.)

- Identification on the MCS of Academic vs. Non-Academic – e.g., Self-Paced Learning, Computer-Based Training – environment
- Identification of residual hours by skill
- “Walking the dog backwards”
- Modeling and simulation of “what-ifs”

TOURS: IMRD (Phase II)

Return on Investment (ROI)

- Immediate results of “What-Ifs”
- Quality Control (QC) by exception
- Instructor requirements updated annually vice every five years
- Reduced on-site time